Louisville Metro Air Pollution Control District
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137

March 31, 2020

Federally-Enforceable District-Origin Operating Permit (FEDOOP) Statement of Basis

Source: IMI South, LLC – Middletown
12901 Avoca Road
Louisville, KY 40223

Owner: IMI South, LLC
1440 Selinda Avenue
Louisville, KY 40213

Application Documents:	See Table I-9				
Draft Permit:	02/28/2020				
Permitting Engineer:	Aaron DeWitt			Permit Number:	O-1369-20-F
Plant ID:	1369	SIC:	3273	NAICS:	327320

Introduction:

This permit will be issued pursuant to District Regulation 2.17- Federally Enforceable District Origin Operating Permits. Its purpose is to limit the plant wide potential emission rates from this source to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements.

Permit renewal and deleting references to greenhouse gasses in General Condition G10.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter less than 10 microns (PM_{10}), and particulate matter less than 2.5 microns ($PM_{2.5}$). Jefferson County is classified as a nonattainment area for ozone (O_3). This facility is located in the portion of Jefferson County that is an attainment area for sulfur dioxide (SO_2).

Permit Application Type:

☐ Initial issuance

Permit Revision
- ☐ Administrative
- ☐ Minor
- ☐ Significant

☒ Permit renewal

Compliance Summary:

☐ Compliance certification signed
☐ Source is out of compliance
☐ Compliance schedule included
☒ Source is operating in compliance

I Source Information

1. Product Description:

IMI South, LLC – Middletown is a combination central mix (wet)/ mix/transit truck (dry) mix, ready mix concrete production facility, consisting of one (1) central mix (wet) and one (1) mix/transit truck (dry) ready mix concrete batch plants utilizing the same conveyors, aggregate bins, weigh hoppers, cement silos flyash silos and slag silo.

2. Process Description:

At the ready mix plant, the dry components of ready mix concrete (cement, flyash, slag, sand, and aggregate) are measured and loaded with water into a central mixer that discharges the wet mix concrete into ready mix concrete transit trucks or the dry components of the ready mix concrete are loaded with water into transit/mixer trucks that mix the concrete, and the ready mix concrete is transported to offsite delivery locations.

3. Site Determination:

There are no other facilities that are contiguous or adjacent to this facility.

4. Emission Unit Summary:

Emission Unit	Equipment Description
U1	One (1) Erie-Strayer, model 7265, central mix (wet)/one (1) Stephens mix/transit truck mix (dry) combination ready mix concrete plant, utilizing the same two (2) cement silos, same two (2) flyash silos, same single slag silo, same single outside aggregate/sand conveyor for loading overhead aggregate/sand bins, and same single Stephens, model SOS8000, baghouse central dust collection system.
IA1	Tanks
IA2	Indirect-fired heat boiler

5. Fugitive Sources:

The fugitive sources identified by the source are uncontrolled portions of the ready-mix concrete unit.

6. Permit Revisions:

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
O-1369-14-F	01/16/2015	02/17/2015	Initial	Initial Permit Issuance

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
O-1369-20-F	02/28/2020	03/31/2020	Renew	Renewal, update format, removed greenhouse gas limits from general condition 10

7. Construction Permit History:

Permit No.	Effective Date	Description
146-00-C	04/07/2000	Construction of concrete batch plant

8. Application and Related Documents

Document Number	Date	Description
119586	09/30/2019	District email reminder of expiring permits, 60 days until application due
126074	12/10/2019	District email requesting overdue application for permit renewal
126248	12/12/2019	IMI Middletown submitted applications
126249	12/12/2019	IMI Middletown recalled previously submitted application. Emission points not complete. To submit corrected version later.
126254	12/13/2019	District response to submitted and recalled version of application
126247	12/13/2019	IMI Middletown submitted applications

9. Emission Summary

Pollutant (ton/yr)	CO	NOx	SO_2	PM_{10}	VOC	Total HAP	Single HAP
Actual Emissions 2011	0	0.02	0	0.26	0.000	0	0
Major source trigger (based on PTE)	No	No	No	Yes	No	No	No

10. Applicable Requirements

☐	40 CFR 60	☒	SIP	☐	40 CFR 63
☐	40 CFR 61	☒	District Origin	☐	Other

11. Referenced Federal Regulations:

The source has no federal requirements.

12. Non-Applicable Regulations:

None

II Regulatory Analysis

1. Stratospheric Ozone Protection Requirements:

Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. IMI South, LLC - Middletown does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

2. Basis of Regulation Applicability

a. Applicable Regulations

Regulation	Title	Basis
1.14	Control of Fugitive Particulate Emissions	Regulation 1.14 establishes standards for fugitive dust sources.
2.17	Federally Enforceable District Origin Operating Permit	Regulation 2.17 establishes Federally Enforceable District Origin Operating Permits
7.08	Standards of Performance for New Process Operations	Regulation 7.08 establishes the requirements for PM emissions from new processes that commence construction after September 1, 1976.

b. Plantwide

IMI South, LLC - Middletown is potentially major for PM_{10}. Regulation 2.17 – F*ederally Enforceable District Origin Operating Permits* establishes requirements to limit the plant wide potential emission rates to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements. The source requested limits of

the PM_{10} less than 25 tons per year, to be classified as a synthetic minor (FEDOOP) source.

Regulations 5.00 5.20, 5.21, and 5.23 (STAR Program) establish requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards. IMI South, LLC - Middletown has requested emission limits of less than 25 tons per year for all regulated air pollutants, less than 12.5 tons/year for total HAPs and less than 5 tons per year for each individual HAP to be considered exempt from local TAC (STAR) regulations, as defined by Regulation 5.00, section 1.13.5.

Regulation 2.17, section 5.2, requires monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the district upon request.

Regulation 2.17, section 7.2, requires stationary sources for which a FEDOOP is issued to submit an Annual Compliance Certification by April 15, of the following calendar year. In addition, as required by Regulation 2.17, section 5.2, the source shall submit regular reports to show compliance with the permit. Compliance reports and compliance certifications shall be signed by a responsible official and shall include a certification statement per Regulation 2.1. The compliance reports are due within 60 days of the end of the reporting period:

Reporting Period	**Report Due Date**
January 1 - June 30	August 29
July 1 - December 31	March 1 of the following year

c. Emission Unit U1 – Ready Mix Concrete Batch Plant

EP	Description	Applicable Regulations
E1	Aggregate/sand conveyor loading hoppers four (4) combined, capacity 330 ton/hr	1.14, 7.08
E2	Aggregate/sand bins loading conveyor, capacity 420 ton/hr	
E3	Aggregate storage, capacity 420 ton/hr	
E4	Cement silo #1, capacity 90 ton	7.08
E5	Flyash silo #1, capacity 90 ton	
E6	Cement silo #2, capacity 76 ton	
E7	Slag silo #1, capacity 46 ton	7.08
E8	Flyash storage, capacity 280 ton	

EP	Description	Applicable Regulations
E9	Aggregate weigh batcher, capacity 360 ton/hr	1.14, 7.08
E10	Cement weigh batcher, capacity 50 ton/hr	7.08
E11	Erie-Strayer central mix (wet) batch plant, capacity 200 yd^3/hr	
E12	Stephens transit/mixer truck (dry) batch plant, capacity 120 yd^3/hr	
E13	Aggregate/sand transfer conveyor, capacity 360 ton/hr	1.14, 7.08

i. Standards

(1) Opacity

(a) Regulation 7.08, section 3.1.1 establishes an opacity standard of less than 20%, for processes that commenced construction after September 1, 1976.

(2) PM

(a) Regulation 1.14, section 2.1, requires the source to take precautions to prevent particulate matter from becoming airborne beyond the work site.

(b) Construction permit 146-00-C for the ready-mix batch plant limits the emissions of the pollutant PM from each batch plant emission point to 2.34 lb/hr.

(c) Construction permit 146-00-C for the ready-mix batch plant combined, emission points E1 trough E13, limits the emissions of the pollutant PM from the batch plant to 20 tons per year.

(d) The PM emissions for cement silos filling, emission points E4 and E6, cement supplement silos filling, emission points E5, E7, and E8, mixer loading, emission point E11, and mix/transit truck loading, emission point E12, each exceed the PM lb/hr standard uncontrolled. The source is required to operate the dust collection system at all times the emission points are in operation, in order to show compliance with Construction Permit 146-00-C, 2.34 lb/hr PM standard.

III Other Requirements

1. Temporary Sources:

The source did not request to operate any temporary facilities.

2. Short Term Activities:

The source did not report any short term activities.

3. Emissions Trading:

The source is not subject to emission trading.

4. Alternative Operating Scenarios:

The source did not request any alternative operating scenarios.

5. Compliance History:

There are no records of any violations of the terms of the present or prior construction or operating permits.

6. Calculation Methodology or Other Approved Method:

Concrete Batch Plants (U1): Emission factors from AP-42, Chapter 11.12, Concrete Batching, were used to determine Potential to Emit and confirm limits requested by the source.

Table 1 AP-42 Controlled Emission Factors

Equipment	AP-42 Emission Factor, Controlled lb PM_{10}/ton	Controlled PM_{10} Emission Factor converted to lb PM_{10}/yd^3 dry concrete
Aggregate Transfer	0.0033	0.0031
Sand Transfer	0.00099	0.0007
Weigh hopper (Agg+Sand)[a]	0.00014	0.00023
Mixer loading (cement+flyash)[b]	0.0055	0.0016
Cement silo filling	0.00034	0.00008
Flyash silo filling	0.0049	0.0002
Aggregate ground storage	N/A	0.0031
Sand ground storage	N/A	0.0007
Aggregate hopper loading	N/A	0.0031
Sand hopper loading	N/A	0.0007

Table 2 AP-42 Uncontrolled Emission Factors

Equipment	AP-42 Emission Factor, Uncontrolled lb PM_{10}/ton	Uncontrolled PM_{10} Emission Factor converted to lb PM_{10}/yd^3 dry concrete
Aggregate Transfer	0.0033	0.0031
Sand Transfer	0.00099	0.0007
Weigh hopper (Agg+Sand)[a]	0.0028	0.0046
Mixer loading (cement+flyash)[b]	0.156	0.044
Cement silo filling	0.47	0.1152
Flyash silo filling	1.10	0.0402

Equipment	AP-42 Emission Factor, Uncontrolled lb PM_{10}/ton	Uncontrolled PM_{10} Emission Factor converted to lb PM_{10}/yd^3 dry concrete
Aggregate ground storage	N/A	0.0031
Sand ground storage	N/A	0.0007
Aggregate hopper loading	N/A	0.0031
Sand hopper loading	N/A	0.0007

[a] The unit for weigh hopper emission factor is lb of pollutant per ton of aggregate and sand, AP-42, table 11.12-2, footnote e.

[b] The unit for central mixer loading emission factor is lb of pollutant per ton of cement and flyash, AP-42, table 11.12-2, footnote f.

Table 3 AP-42 Controlled Emission Factors

Equipment	AP-42 Emission Factor, Controlled lb PM/ton	Controlled PM Emission Factor converted to lb PM/yd^3 dry concrete
Aggregate Transfer	0.0069	0.0063
Sand Transfer	0.00021	0.0015
Weigh hopper (Agg+Sand)[a]	0.00024	0.0004
Mixer loading (cem+cem suppl)[b]	0.0184	0.0052
Mix/transit truck loading (cem+cem supply)[b]	0.098	0.0276
Cement silo filling	0.00099	0.00024
Cement supplement silo filling	0.0089	0.0003
Aggregate ground storage	N/A	0.0064
Sand ground storage	N/A	0.0015
Aggregate hopper loading	N/A	0.0064
Sand hopper loading	N/A	0.0015

Table 4 AP-42 Uncontrolled Emission Factors

Equipment	AP-42 Emission Factor, Uncontrolled lb PM/ton	Uncontrolled PM Emission Factor converted to lb PM/yd^3 dry concrete
Aggregate Transfer	0.0069	0.0063
Sand Transfer	0.00021	0.0015
Weigh hopper (Agg+Sand)[a]	0.0048	0.0079
Mixer loading (cement+flyash)[b]	0.572	0.161
Mix/transit truck loading (cem+cem suppl)[b]	1.118	0.315
Cement silo filling	0.73	0.179
Cement supplement silo filling	3.14	0.116
Aggregate ground storage	N/A	0.0064
Sand ground storage	N/A	0.0015
Aggregate hopper loading	N/A	0.0064
Sand hopper loading	N/A	0.0015

[a] The unit for weigh hopper emission factor is lb of pollutant per ton of aggregate and sand, AP-42, table 11.12-2, footnote e.
[b] The unit for central mixer loading emission factor is lb of pollutant per ton of cement and flyash, AP-42, table 11.12-2, footnote f.

Insignificant Activities

Equipment	Qty	PTE (ton/yr)	Regulation Basis
Tanks for storage of lubricating or fuel oils, vapor pressure < 10 mmHg @ 20 °C and 760 mmHg. (See unit IA1 – Tanks)	5	0.01 VOC	Reg. 1.02, Appendix A
2.5 MMBtu/hr natural gas fueled water heater (See unit IA2 – Indirect-fired Heat Boiler)	1	1.07 NO_X	Reg. 1.02, Appendix A

1. Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements.
2. Insignificant activities identified in District Regulation 1.02, Appendix A, shall comply with generally applicable requirements.
3. The owner or operator shall annually submit an updated list of insignificant activities that occurred during the preceding year, with the compliance certification due April 15th.
4. Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
5. The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) as the annual emissions for each piece of equipment.
6. The District has determined that no monitoring, recordkeeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.

7. Equipment Not Regulated

Emission Point	Description
IA Tanks	Four (4) VOC storage tanks, each with a maximum capacity of 250 gallons or less, for storing engine oil, gear oil, hydraulic oil, and transmission fluid

8. IA Emission Units with Applicable Regulations

a. Emission Unit IA1 – Tanks

i. Equipment

EP	Description	Applicable Regulations
T1	8,000-gallon tank, used for diesel fuel	7.12

ii. Standards and Operation Limits

(1) VOC

(a) Regulation 7.12, section 3.3 requires submerged fill if the materials have an as stored vapor pressure of 1.5 psia or greater.

(b) Regulation 7.12 applies due to the size of the tanks, however, since the vapor pressure as stored is less than 1.5 psia there are no applicable emission or equipment standards.

b. Emission Unit IA2 – Indirect-fired Heat Boiler

EP	Description	Applicable Regulations
E16	Indirect-fired heat natural gas boiler, make Williams & Davis, model 777, capacity 3.3 MMBtu/hr	7.06

i. Standards and Operation Limits

(1) Opacity

(a) Regulation 7.06, section 4.2 applies to the boiler. The District has determined that using a natural gas fired boiler will inherently meet the 20% opacity standard. Therefore, the company is not required to perform periodic monitoring to demonstrate compliance with the opacity standard.

(2) PM

(a) In accordance with Regulation 7.06, section 4.1.1, PM emissions are limited to 0.56 pounds per million Btu actual total heat input for Emission Point E16.

A one-time PM and SO_2 compliance demonstration has been performed for the boilers, using AP-42 emission factors and combusting natural gas, and the emission standards cannot be exceeded. Therefore, there are no monitoring, record keeping, and

reporting requirements for this boiler with respect to PM and SO_2 emission limits.

(3) SO_2

(a) In accordance with Regulation 7.06, section 5.1.1, SO_2 emissions are limited to 1.0 pounds per million Btu actual total heat input for Emission Point E16 because the total heat input capacity is less than 145 million Btu per hour.

A one-time PM and SO_2 compliance demonstration has been performed for the boilers, using AP-42 emission factors and combusting natural gas, and the emission standards cannot be exceeded. Therefore, there are no monitoring, record keeping, and reporting requirements for this boiler with respect to PM and SO_2 emission limits.